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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Junichi Kokudo

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08/17/2005

SUGHRUE, MION, ZINN, MACPEAK & SEAS
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EXAMINER

LEVITAN, DMITRY

ART UNIT

PAPER NUMBER

2662

DATE MAILED: 08/17/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/680,258

Applicant(s)

KOKUDO, JUNICHI

Examiner

Dmitry Levitan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 May 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 and 24-29 is/are rejected.
- 7) ☒ Claim(s) 19-23 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Amendment, filed 05/24/05 has been entered. Claims 1-32 remain pending.

Claim Objections

1. In light of Applicant's amendment, claims 24 and 26 objection has been withdrawn.
2. Claims 1, 6, 14, 17, 19-23 and 29 objected to because of the following informalities:
claim limitation "a problem/failure occurs at authentication server" is unclear, because it is not understood what type of problem/failure is claimed: an authentication problem/failure resulting in the access denial (for example, due to wrong password) or the authentication server crash.
Appropriate correction is required.
3. Claims 3, 8, 14, 17, 19-23 and 29 objected to because of the following informalities:
claim limitation "authentication of said MAC address" is unclear, because it is not understood what type of authentication is claimed: an authentication based only on the terminal MAC address or any authentication of a terminal with said MAC address.

Claim Rejections - 35 USC § 112

4. In light of Applicant's amendment, claims rejection under 35 U.S.C. 112, first and second paragraph, has been withdrawn.
5. Claims 3, 8, 14, 17 and 29 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential steps, such omission amounting to a gap between the steps.
See MPEP § 2172.01. The omitted steps are: storing the MAC address retrieved from the authentication server.

Claim Rejections - 35 USC § 103

1. Claims 1, 2, 6, 7, 9, 12, 13, 15, 16, 25, 27, 28, 30-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ichikawa (US 6,307,837).

2. Regarding claims 1, 6, 12, 13, 15, 16, 25, 27, 28, 30, Ichikawa teaches a method and an apparatus for an authentication in a wireless LAN system (wireless packet network on Fig. 1 and 7:1-27), comprising:

Transmitting an authentication request from a STA to an AP wherein said authentication request comprises a request from said STA to connect with said LAN (wireless terminal 1-7 sends a startup request to the wireless bas station 1-6, step 2-1 on Fig. 3 and 7:45-49),

Requesting authentication of said authentication request from said AP to an authentication server (terminal information request from base station 1-6 to terminal authentication server 1-8, step 2-2 on Fig. 3 and 7:49-53), by converting said authentication request to a protocol adaptable to said server (inherently part of the system, because all signals at wireless base station have to go through conversion from wireless format of a wireless terminal to the wired format of the server),

If no problem occurs at the authentication server (inherently part of the system, because the method is based on an operational server), checking said authentication request based on MAC address of STA (terminal address comparison section 15 on Fig. 2 and 9:12-20, wherein terminal address is Ethernet MAC address 7:27-33, located at each of base stations 1-6 on Fig. 1),

Executing encryption authentication at said AP with said STA based on designated encryption algorithm (comparing random numbers and encrypting packets if the numbers match Fig. 3 and 8:2-13), and

If no problem occurs at the authentication server (inherently part of the system, because the method is based on an operational server), notifying an authentication completion from the server to said AP, after said authentication server received a response of a completion of said encryption authentication from said AP (sending authentication reception signal 2-6 on Fig. 3 allowing communication 8:2-9).

Ichikawa does not teach checking authentication request based on MAC address at the server.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to move checking authentication request based on MAC address from the base station to the server in the system of Ichikawa to reduce the system cost, by combining MAC comparison hardware from several base stations into one authentication server.

In addition, regarding claims 12, 13, 15, 25, 27, Ichikawa teaches a first and second authenticating parts (terminal authentication section 10 and terminal address section 15 on Fig. 2), based on first and second information certificates provided by the terminal (returned random number 8:2-9 and terminal information 8:33-54), storing part for storing said second information certificate (memory section 11 for storing terminal information 7:55-58) and communication part to communicate with the server (inherently part of base station, because communication with the server is essential for the system).

In addition, regarding claim 16, Ichikawa teaches bas station 1-6, comprising authentication, communication and connection control parts (see rejection of claim 1 above).

3. Regarding claims 2 and 7, Ichikawa teaches, renewing a table of MAC address in said AP by instruction from said authenticating server, after encryption authentication is completed (storing terminal information/MAC, received from authentication server, in the terminal information memory section 11, effectively updating table 1, 7:50-58 and 8:34-54).

4. Regarding claims 31-33, Ichikawa teaches MAC address as globally unique hardware identifier, comprising more than 10,000 different MAC addresses (MAC address as adopted in Ethernet 7:28-33, wherein it comprises a global hardware address and in long version of 6 octets long, can be used for more than 10, 000 different MAC addresses).

5. Claims 4 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ichikawa in view of Lewis (US 6,453,159).

Ichikawa teaches all the limitations of parent claim 1 and 6 (see rejection of claim 1).

Ichikawa does not teach using shared key for a predetermined usable period.

Lewis teaches using shared key for a predetermined usable period (time limits on the access Fig. 4 and 10:28-39).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use shared key for a predetermined usable period of Lewis in the system of Ichikawa to improve the system security.

6. Claims 5 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ichikawa in view of Lewis in further view of Admitted Prior Art (Application, pages 1-3).

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Ichikawa in view of Lewis teaches all the limitations of parent claims 5 and 10 and inherently teaches using MAC address authentication, if the shared key time limit expires, because the two authentication operations in Ichikawa system are independent.

Ichikawa in view of Lewis does not teach shared key authentication method as open system authentication.

Admitted Prior Art teaches shared key authentication method as open system authentication (Fig. 2 and pages 2, 3).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use shared key authentication method as open system authentication of Admitted Prior Art in the system of Ichikawa to improve the system compatibility with devices utilizing widely used Open System Interconnection (OSI) layered approach.

7. Claims 9 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ichikawa in view of Admitted Prior Art (Application, page 1).

Ichikawa substantially teaches the limitations of parent claim 6 and claims 16 and 17 (see rejection of claim 1).

Ichikawa does not teach using WEP algorithm for authentication.

Admitted Prior Art teaches using WEP algorithm for authentication (WEP as a part of IEEE standard).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use WEP algorithm for authentication of Admitted Prior Art in the system of Ichikawa to improve the system compatibility with devices utilizing widely used standard.

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8. Claims 24 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ichikawa in view of Lewis in further view of Admitted Prior Art (Application, pages 1-3). Ichikawa in view of Lewis substantially teaches all the limitations of claims 24 and 26 (see rejection of claims 1 and 4).

Ichikawa in view of Lewis does not teach shared key authentication method as open system authentication.

Admitted Prior Art teaches shared key authentication method as open system authentication (Fig. 2 and pages 2, 3).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use shared key authentication method as open system authentication of Admitted Prior Art in the system of Ichikawa to improve the system compatibility with devices utilizing widely used Open System Interconnection (OSI) layered approach.

Response to Arguments

9. Applicant's arguments filed 05/24/05 have been fully considered but they are not persuasive.

On pages 22-26 of the Response, Applicant argues that moving authentication based on MAC from, performed at base stations of Ichikawa, to the authentication server is not obvious.

Examiner respectfully disagrees.

Examiner believes that combining the process of authentication by MAC address at a single entity, like an already existing authentication server, is obvious to one of ordinary skilled in the art, to reduce the system cost by combining the system hardware in one unit/server.

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Applicant's making the process of authentication by MAC address integral is a design choice.

See In re Larson 144 USPQ 347 (CCPA1965).

On page 27 of the Response, Applicant argues that Ichikawa does not teach notifying an authentication completion from said authentication server to said AP.

Examiner respectfully disagrees.

Ichikawa inherently teaches notifying an authentication completion from said authentication server to said AP/base stations 1-6 on Fig. 1, because the notification signal 2-6 on Fig. 3 from the authentication server 1-8 on Fig. 1 can be delivered to the wireless terminal 1-7 only through an AP/wireless base station 1-6.

On page 30 of the Response, Applicant argues that Ichikawa does not teach an authentication server, which issues permission for establishing connection.

Examiner respectfully disagrees.

Ichikawa teaches an authentication server 1-8 on Fig. 1, which stores terminal information tables and provides critical information to a wireless packet terminal to start communication 7:24-27 and modified as stated in the rejection of claim 1 above, issues a permission to a wireless packet terminal to start communication.

On page 31 of the Response, Applicant argues that Ichikawa does not teach sending MAC address to the authentication server and receiving a result of a MAC address authentication performed at the server.

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Examiner respectfully disagrees.

Ichikawa, modified as disclosed in claim 1 rejection above, teaches sending MAC address to the authentication server and receiving a result of a MAC address authentication performed at the server, as the MAC comparison function is moved from base stations to the server (see rejection of claim 1).

Allowable Subject Matter

10. Claims 3, 8, 14, 17 and 29 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims and resolving the objections to the claims.

11. Claims 19-23 would be allowable if rewritten or amended to overcome the objections to the claims, set forth in this Office action.

Conclusion

12. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

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CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dmitry Levitan whose telephone number is (571) 272-3093. The examiner can normally be reached on 8:30 to 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on (571) 272-3088. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Dmitry Levitan
Patent Examiner.
08/11/05



JOHN PEZZLO
PRIMARY EXAMINER